

CLAIM OR CLAIMS:

1           1.     A drive rod string for a progressive cavity pump comprising:  
2                     a plurality of drive rods, each drive rod having a pair of opposed ends, wherein each  
3     said end terminates in a frustoconical pin having tapered threading and having a radially extending  
4     cylindrical shoulder;  
5                     a plurality of connectors, each connector attached to one said end of a pair of said  
6     drive rods, wherein each said connector has a pair of opposed frustoconical threaded recesses which  
7     extend from a pair of shoulders which mate with said cylindrical shoulders of said frustoconical pins;  
8     and  
9                     an internal secondary stop within said connector acting as a positive stop in each said  
10    connector for said frustoconical pin.

1           2.     A drive rod string as set forth in Claim 1 wherein said internal secondary stop is  
2     spaced from each frustoconical pin until said pin is elongated from stress.

1           3.     A drive rod string as set forth in Claim 1 wherein each said frustoconical pin  
2     cylindrical shoulder has a surface which is roughened and wherein each said connector pair of  
3     shoulders have surfaces which are roughened and wherein said mating of said roughened surfaces  
4     resists rotational movement.

1           4.     A drive rod string as set forth in Claim 1 wherein said drive rod string connectors can  
2     accommodate up to 1,750 foot pounds of torque to said drive rod string.

1           5.     A connector for a pair of drive rods, wherein each drive rod terminates in a  
2     frustoconical pin having tapered threading and having a radially extending cylindrical shoulder with  
3     substantially no undercut between said tapered threading and said shoulder and wherein said  
4     cylindrical shoulder has a roughened surface, which connector comprises:

5                 a pair of opposed frustoconical threaded recesses, each said frustoconical recess  
6     extending from a shoulder which will mate with said cylindrical shoulder of said frustoconical pin;  
7     and

8                 an internal secondary stop within said connector between said frustoconical threaded  
9     recesses which acts as a positive stop.

1           6.     A drive rod string as set forth in Claim 1 wherein said internal secondary stop is  
2     normally spaced from said frustoconical pin when said pin is threaded into said recess.

1           7.     A method of operating a progressive cavity device, which method comprises:  
2                 positioning a progressive cavity device downhole in a well by attaching a drive rod  
3     string to said device, wherein said drive rod string includes a plurality of drive rods, each drive rod  
4     having a pair of opposed ends, each said end terminating in a frustoconical pin having tapered  
5     threading and having a radially extending cylindrical shoulder and includes a plurality of connectors,  
6     each connector having a pair of opposed frustoconical threaded recesses, each said frustoconical  
7     recess extending from a shoulder which will mate with said cylindrical shoulder of said frustoconical  
8     pin; and

9                 rotating said drive rod string to power said progressive cavity device.